



THOMAS G. NEWMAN, Editor.

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We Wish all of our readers, both young and old, a prosperous and  
"HAPPY NEW YEAR."

Listen to those solemn murmurs,  
Weirdly sounding everywhere;  
'Tis the passing moments moaning  
For the Old and Dying Year.

**One Dollar** invested for the weekly visits of the AMERICAN BEE JOURNAL for 1888, will richly repay every apiarist in America.

**Queries.**—We close this volume with Query No. 500, and will commence next year with No. 501. On that account there are none this week. This department is very interesting and instructive to all. The number of replies will be greatly increased for next year.

**Our Thanks** are hereby tendered to all of the BEE JOURNAL family for their patronage of the past, and all are invited to remain with us for another year.

**Wind-Breaks** around the apiary are very desirable in winter, or at least on the exposed sides. A high board fence, or even a row of evergreens, will be an advantage.

**By Inducing** your bee-keeping neighbor to take the BEE JOURNAL for 1888, you will be doing yourself a duty, because he may thus be educated so as not to ruin your market for honey by selling his at a ruinous price, for lack of knowing its real worth.

**A Complete Index** is presented this week, not only to the subjects presented during the year, but also to the names of correspondents. The latter one comprises nearly all of the best and most thoroughly successful apiarists of the present age.

**Never Disturb** the bees during cold weather. If anything is necessary to be done, wait for a warm day and then do it about noon.

**Sweet Goldenrod** is the title of this ambrosial feast of delicate sentiment:

O goldenrod! sweet goldenrod!  
Bride of the autumn sun;  
Has he kissed thy blossoms this mellow morn,  
And tinged them one by one?

Did the crickets sing at thy christening,  
When, in his warm embrace,  
He gave the love from his brimming cup,  
And beauty, cheer, and grace?

He brightens the asters, but soon they fade,  
He reddens the sumac tree;  
The clematis loses its snowy bloom,  
But he's true as truth to thee.

Scattered on mountain top or plain,  
Unseen by human eye,  
He turns the fringes to burnished gold  
By love's sweet alchemy.

And when the chill November comes,  
And the flowers their work have done,  
Thou art still unchanged, dear goldenrod,  
Bride of the autumn sun!

**Volume XXIII** is closed with this number. Another valuable "book of reference" is created for the pursuit of apiculture.

For 14 years the present Editor has had the support and confidence of the readers of the AMERICAN BEE JOURNAL, and hopes to retain and merit its longer continuance.

In order to be of the greatest advantage to our pursuit, we must have the largest constituency of wide-awake, progressive apiarists, and we request that if our patrons think we have labored for their interest in the past, that they will give us "the vote of confidence" in the shape of continued exertions for the prosperity of the AMERICAN BEE JOURNAL.

Its record, character and usefulness in the past is its GUARANTEE for the future. It will lose no opportunity to further the interests of honey-producers by booming the product and defending the pursuit of apiculture.

**One Day Late.**—On account of our day of printing (Monday) being the legal holiday for Christmas and New Year, the BEE JOURNAL will be one day late for this and next week.

**To Detect Glucose in Sugar.**—An exchange gives the following recipe:

It is said that the presence of glucose in sugar can be detected in this way: Take a handful of the mixture and drop it into a glass of cold water. Stir it a few minutes and you will note that the sugar-cane is entirely dissolved, leaving the grape-sugar undissolved at the bottom of the glass, in the form of a white, sticky substance, not at all unlike starch in looks, and quite bitter to the taste. It will not do to use hot water in your test, however, for if you do the whole thing will dissolve.

**A Favorable Word** from any of our readers, who speak from experience, has more weight with their friends than anything we might say. Every one of our readers can lend us a helping hand, in this way, without much trouble, and at the same time help to scatter apicultural knowledge and promote the welfare of our pursuit.

**Swiss Honey.**—A correspondent refers to an article which lately appeared in a Boston paper, stating that "what was advertised and sold as Swiss honey, and furnished on the tables of Hotels in the different parts of Europe, and even in Egypt, was not honey at all; that in Switzerland pears were ground in a cider-mill and the juice of the pears was boiled down and constitutes the Swiss honey; that the article is of a clear, light-amber color, and about the consistency of thick molasses, the flavor being very agreeable."

Our correspondent, upon his attention being called to the Boston article by a friend, expressed a doubt concerning it, and both agreed to write to the Editor of the AMERICAN BEE JOURNAL for any facts he may have concerning it, and when sending it, remarked thus:

As you have traveled in Switzerland and the neighboring countries, I suppose you are able to enlighten us on this question.

The article in the Boston paper is of the same character as the Wiley lie about the manufacture of comb honey published some years ago in the "Popular Science Monthly."

We are personally acquainted with many apiarists in Switzerland and other European countries, and know that their honey is just as pure and genuine as ours. We have eaten of the honey at the hotel tables, and do not fear to say that it is genuine honey.

The wholesale lying indulged in by scribblers for the press concerning honey, is only an evidence that they know nothing of the matters upon which they write.

In the AMERICAN BEE JOURNAL for 1879, on page 483, is an editorial article which we wrote at a hotel in Switzerland, concerning the popular honey cakes found on the hotel tables of that country. It is called the "Leckerli" of Basle.

**Honey as Food.**—The "Michigan Farmer" advises the daily use of honey, on account of its beneficial effect on health. It says:

We desire to commend its daily use to every family in the land. We believe it to be one of the most healthful sweets that can be found, and well adapted to common use. It seems to us very desirable that Michigan should produce a large share of her own table sweets. Could honey be brought into general use, thereby creating an extensive home market for it, we believe it would tend to encourage the culture and production of honey.

It is a healthy sweet for children, and children must have sweets just as the Irishman must have potatoes. The honey-bee feeds upon the healthy juices of healthy plants, and honey partakes of the quality of the blossoms of the plants and trees from which it is gathered. The use of this article should become so common and general that a honey store or depot would be found profitable in every large town. We believe in encouraging the bee-men and women, and if every family in the land would make honey an article of daily use, in place of the unhealthy syrups, then all concerned would be benefited.

## Correspondence.

This mark  $\odot$  indicates that the apiarist is located near the center of the state named;  $\delta$  north of the center;  $\eta$  south;  $\ominus$  east;  $\oplus$  west; and this  $\nearrow$  northeast;  $\nwarrow$  northwest;  $\searrow$  southeast; and  $\swarrow$  southwest of the center of the State mentioned.

For the American Bee Journal.

### United States Linden Honey.

DR. A. B. MASON.

Well, did you ever! Who will be the next to "rile" me up? Because I was so generous and kind-hearted as to try to set Mr. Pettit and the "managing committee" right, in regard to some of his statements in the AMERICAN BEE JOURNAL, here comes Mr. R. McKnight (on page 791), and says that I "manifest a good deal of feeling towards" my "cousins across the border." I confess that I do have "a good deal of feeling" concerning all wayward people, and to the extent of my ability desire to aid in getting them in the right way when they go astray.

In his second sentence, Mr. McKnight says: "None of his remarks already published, or hereafter to be written, will deter Canadian beekeepers from selecting their own names for their own products." That is right; but give the proper credit when you make your "selections." My understanding of this sentence is, that I have said, or will say something to "deter" them, etc. Such is not the case. I have nowhere made the least objection to Canadians giving their products any name they may choose, and had Mr. McKnight read my article on page 709, he would have found no use for his assertion above, for I am there quoted, and correctly too, as having said that I "thought it perfectly right to make Canadian articles distinctively Canadian," etc.; and Mr. Pettit agrees with me about it.

I am not aware that I am obliged to "confine" myself to the "refutation" of any one erroneous statement made by Mr. Pettit, Mr. McKnight, any other Canadian, or any one else, but I think I shall "wander around" after such bee-literature that "gets off its base," as I may see fit, and although Mr. McKnight, in each of his first two paragraphs, seems to insinuate that I object to Canadians using such names and terms for their products as they see fit, I wish to state most emphatically that I have nowhere done anything of the kind.

I will admit that there is a "moleity" of seeming truth in Mr. McKnight's statement that I charge Canadians "as a people with dishonesty and fraud" in the quotation he gives, if "in a 'wily' way" means "dishonesty and fraud;" but I believe my "copy" had a capital W, and an e in "Wiley," and if so printed, I presume no one would have thought that I charged Canadians with "dishonesty

and fraud" in that connection; but in other places I did use the term "misrepresentation and fraud," and I do not wish, nor intend to "take it back," nor apologize for it till I am satisfied that I was mistaken.

In another place I said: "And I pity the ignorance or the dishonesty (I do not know which it is) of every one, be he Canadian, Englishman or 'any other man' who has said that the basswood honey produced in the United States is inferior to the 'fine, richly-flavored' Canadian article, because of its quality or color," and I intend to let it stand just in that way, too.

I do not, in the least, doubt the truth of Mr. McKnight's statement when he says that "the sins of that sharper" (if there was such) "are visited upon his countrymen to this day," for a people who do not know the difference between "basswood nutmegs," "basswood hams," or "basswood" honey, unless properly "stamped," would not be very likely to know the difference between a "sharper" and a nation of honest people. Oh! yes, neighbor, I have frequently heard that Englishmen are "modest" (for how can an Englishman write an article without putting his "modest" foot in it); but I have never seen any proof of it, unless the terms "modest" and "bombastic" are synonymous. Now, this does not apply to Canadians, for my personal acquaintance with Messrs. D. A. Jones, F. H. Macpherson, Pettit, Enigh, and Holtermann, and the Rev. W. F. Clarke, lead me to believe that, if they are representative Canadians, that the Canadians are just about as nice and genial as the "Yankees" are. But I do not mean to say that all Canadians or Yankees are nice and honest.

"No, no," Mr. McKnight, I did not say that it was a "put up job" on your part to rob us of the reputation, etc., but what I did say was, that the more I thought about Mr. Pettit's statements, "the more thoroughly did I become convinced that it was a 'put up job,' and a deliberate and unwarranted attempt, by misrepresentation and fraud, to build up a name and market (italics mine) for Canadian basswood honey," etc. Nothing about reputation, you see. Mr. McKnight should stick to the text, and not get too much "misrepresentation" in his "remarks."

I am more than pleased to have Mr. McKnight say that "Dr. Mason mistakes the facts when he says that Canadians in a 'wily way,' or any other way... have not sought to destroy confidence in the good qualities of American basswood honey, and claim superiority for their own;" but how are we to know that his utterances have more of truth in them than Mr. Pettit's, or even as much?

Perhaps I made a mistake in taking Mr. Pettit for a representative Canadian, but he was President of the Ontario Bee-Keepers' Association, and it seemed rather natural to presume that he was the very best authority on the subject, for he signed his name and "President Ontario

Bee-Keepers' Association." It may be possible that it is one of my blunders, but I am not going to make another by putting Mr. McKnight down as better authority than Mr. Pettit, for I do not believe it.

"One swallow does not make a summer," Mr. McKnight says. Well, I suppose he is right, for I have several times heard that it takes two. "Nor one man make a nation;" I expect that depends upon the man and the nation. I have heard of a man saving a nation. Perhaps it is not "generous" on my part to manifest such antipathy against my "cousins and relatives," because one (or in this case two) of them "hold and express opinions peculiar to himself (themselves), and in which his fellow countrymen do not sympathize." But, "it is English you know," for, as Mr. McKnight shows, they visit "the sins of that sharper... upon his countrymen to this day." How is that for being generous?

I am not sure that to "hate" is an "evidence of fear on the part of the hater, and power on the part of those hated;" neither do I see its application here. It certainly does not apply to me, for I do not "hate" any person, but I do hate the actions and doings of a large number of people; and as for "fear," I do not now remember that I am particularly afraid of, or fear any one.

I am not aware that any one has asked, or even expressed a desire that some one should apologize for adopting the word "linden" as against "basswood," and I fully agree with Mr. McKnight, "that the term linden... is more... correct," and the Canadians have shown their good sense in adopting it; and now that it is used in the North, South, East and West, it is to be hoped that those living in the limited area in the United States, that have been following the bad example of the Canadians in using the term "basswood," will soon get back into the "right way" and use the term "linden" only; for it certainly is "more correct." The only reason that I can see why the "term linden is at once more respectable" is, because it is "more correct," and it is "more respectable" to be correct than to be incorrect; so let all try and be among the "more respectable" ones.

I do not, and did not "complain," and am not "riled" because Canadians adopted our name "linden," but give them credit for their shrewdness in holding on to a good thing when they see it. What I did complain of, was the seeming, if not real attempt of the Canadians (Mr. Pettit being their representative) to introduce their honey "in the markets of the world by misrepresentation" (and that is fraud, I guess) in calling it "superior" to our honey.

If I am mistaken about "the warm words about the \$1,000 grant," I am glad to "stand corrected," but I said what my impression was in scanning the matter in the Canadian Bee Journal.

My object in my articles on this subject was to show that Mr. Pettit's



statements in regard to the color and quality of United States linden honey were incorrect; and also to show our Canadian neighbors that the term "linden" is the one used over much the larger portion of the United States; the term "basswood" being used only along the Canadian border; and I leave it to those interested to say how well I have succeeded in doing it, and I shall be most happy to furnish, if desired, more evidence of the truthfulness of my statements in regard to the color and quality of United States linden honey. Thanks to the Canadians for getting me to using the "more respectable" term "linden."

Auburndale, N. O.

For the American Bee Journal.

### Season of 1887, Honey-Boards, etc.

J. E. HAND.

Bees have done very poorly in this vicinity the past season. There was but little white clover bloom, and only on low land along the streams. On account of the extreme drouth, it yielded no honey, consequently at the beginning of basswood bloom the bees were almost destitute, in fact I should have had to feed my bees or let them starve in July. But basswood came to the rescue just in time to save our bees, and they began to work with a vengeance, and soon had their brood apartments filled with nice white honey. Only the very strongest colonies went into the sections; those that were not strong enough to work in the sections profitably, I divided. I had only three natural swarms. I commenced with 30 colonies, increased them to 41, and took about 500 pounds of comb honey.

My apiary is three miles from the nearest basswood trees. I am satisfied that my bees went five miles to work on basswood. I think that another year I shall have my bees nearer the timber, as I think that my yield would have been twice as large had I been close by the timber. We had the best flow of basswood honey that I ever knew.

Buckwheat yielded no honey, and fall flowers but little, consequently about one-fourth of my colonies had to be fed for winter. My bees never went into winter quarters so light in stores as they have this winter; but I intend to see that none of them starve. It is my opinion that a great many of the "guess so" bee-keepers will lose most of their bees this winter.

I wish to say a word in favor of the Heddon honey-board. I have used it in my apiary for the past two seasons, and I think it will pay for itself in a very short time. It has only to be used to be appreciated. It does entirely away with all brace-combs, and does not hinder the bees from going into the sections.

The prospect of next season's honey crop is not very flattering, to say the least, as white clover is all killed on high ground, and the rains came so late that the seed did not germinate

in time to get sufficient root to stand the winter. All we can do is to have our bees in the best possible condition to make the most of whatever we get, and be thankful for the blessings already bestowed.

Owasa, © Iowa, Dec. 18, 1887.

For the American Bee Journal.

### Wintering Bees in Kentucky.

J. M. TYLER.

I have 25 colonies thoroughly Italianized with pure queens obtained from States north and south, to break up sectionalism, insure harmony and no seceding. They are in 10-frame (each in upper and lower story) Langstroth hives.

All the information in the bee-papers on the subject of wintering bees is from apiarists of higher latitudes, where the cellar or chaff hives are necessary. Successful wintering on the summer stands here is what this section and latitude wants. Last winter I wintered 14 colonies on the summer stands in two-story Langstroth hives, in good condition, while I heard of the usual loss from my neighbors. About the last of November I distributed 3 frames of honey from the strong to the weaker, placing the weaker colonies in the centre of the hive, with 5 or 6 frames of honey, all empty frames being removed. I close them in with division-boards reaching to the bottom; then fill the vacant spaces between the division-boards and wall of the brood-chamber with chaff. This makes thick walls, insures warmth, and enables weak colonies to maintain a proper temperature. The honey-boards are removed from all the colonies, and Hill's device, easily made out of clean barrel staves, put on the body of the upper story. Then I lay on a cover of burlap, coffee-sack, or pieces of carpet, always clean, and cut large so as to tuck all around. I place on top of this a chaff pillow about 6 inches thick, made to fit tightly, so as to tuck down close in the corners. I then put a roof on and fasten it down with wire.

I do not unpack them in the spring until cold spells are over, and until the brood calls for more room. I feed in the spring by mixing honey and granulated sugar with a little fine meal to a paste; I spread it on thin boards, which I shove in at the entrance at night, and remove early in the morning.

I had no swarms the past season, but divided colonies as directed by Mr. Muth. Six or 7 of my old colonies stored an average of 20 pounds of surplus honey. Zinc queen-excluding honey-boards and Heddon's break-joint slatted honey-boards were used. The zinc honey-board will not do for this locality. The honey melted down out of the frames in the super with them, where they were exposed to the sun; and furthermore, the bees stopped most of the holes up with propolis, and I think that some bees are too large to get through readily,

or not all. I discovered this when using a drone-catcher which had the perforated zinc. The slatted break-joint honey-board is a gem; where it was used no honey melted, and no necks of comb were built to the super frames.

Compared with all the writers for the bee-papers, I discover that Mr. Muth and myself are behind in holding to the 10-frame Langstroth hive. I am perplexed to know the best and cheapest hive to use for my locality to winter bees on the summer stands. Several styles are recommended; but it is not easy to change after a large apiary is built up. We must use pine lumber, as poplar is so given to warping. What is the best hive for us here?

Bowling Green, Ky.

[We know of no better hive than the Langstroth for all purposes and all latitudes.—Ed.]

New England Homestead.

### Late Fall Work in the Apiary.

SAMUEL CUSHMAN.

Every pleasant day my bees worked with a will on wild asters or frost weed. The golden-rod bloom was about over. My Cook apiary is where many farms are grown up to weeds and brush, and golden-rod and asters are very abundant.

Being on a hill, frosts hold off late, and I generally get a good fall crop, always enough for winter stores. Here the bees gathered enough during the season to keep up brood-rearing, and during the yield from chestnut, most colonies drew out the foundation and nearly filled with honey from 40 to 80 one-pound sections. This I allowed to remain, as the honey is dark, and does not sell so well. During the long scarcity that followed, these boxes were emptied, and the honey used to rear brood. At the opening of the fall flow all the colonies were very powerful, but had less than a fortnight's supply of stores.

#### FALL HONEY IN SECTIONS.

As I had not taken enough surplus to meet the local demands, I wished to make the most of this flow and to get all the honey possible in the sections. To do this, I crowded all the colonies on very few brood combs to force them into the sections, and as bees are reluctant to build comb late in the season, I gave only sections containing drawn-out combs. A thick chaff cushion was placed above to retain the heat.

I generally leave sufficient natural stores for the winter supply, but I have made an exception this season. As soon as there is a killing frost, all the honey in the hives in the home apiary was extracted, also that in the others when it could be conveniently done.

#### FEEDING BEES FOR WINTER.

I then spread the combs as they were to remain for the winter, and immediately fed sufficient thick sugar

syrup to last until spring. By using a large feeder, twice filling was sufficient. A strong colony will empty one feeder twice in a day. If I fear robbing, I feed only at night, otherwise both morning and evening. The earlier this can be done the better, as after the weather is cold, bees are less active, and the feed is not so readily stored and capped. It should be given warm, or fairly hot. I prefer to have all feeding done if possible in September, and have no occasion to open hives after Oct. 1; the chances for successful wintering are then much greater. Frames are spread 1½ inches from centre to centre; this enables the bees to thicken the combs at the top, store more at each comb, and gives more room for them to cluster between the combs. In the working season, I space them 1½ inches from centre to centre. Bees usually place most of their stores of pollen in each outside comb, or at least in the outer ones which they occupy. Remember this when filling hives with spare combs before feeding.

#### WHAT I FEED THE BEES.

I doubt not that the best quality of honey is the best winter food for bees, but after it has been removed from the hives, the bees do not again get it. The poorer qualities are fed back in the spring, when it is used to rear brood, and does not affect the bees unfavorably, but I do not feel safe to use it for winter stores, and, therefore, use the best grade of granulated sugar. This is dissolved in boiling water in the proportion of 5 pounds of sugar to one quart of water. If not used, it will soon crystallize. To guard against this occurring in the hive, bee-keepers use an acid which is added while the syrup is boiling. Some use tartaric acid, an even teaspoonful dissolved in water for every 20 pounds of sugar. Others use vinegar. If added when quite hot, it makes a chemical change in the sugar called "inversion." This prevents granulation out of the hive, and when bees are fed late, and have no time to treat it with their natural acid secretion, it may be a good thing; but if fed early, while it is warm weather, I do not believe their artificial aid will be of any benefit.

This season I added to every 20 pounds of dissolved sugar, 2 ounces of strong honey-vinegar, 1 ounce of salt, and 2 ounces of salicylic acid solution. Salicylic acid has a close affinity (or is like in its nature) to the formic acid of the bees, is an anti-fungus, and much used as a preventive and a cure for that great scourge of bee-keepers, foul brood. It is here used as a preventive. The solution is made of salicylic acid 1 ounce, soda borax 1 ounce, water 4 pints. Granulation may also be prevented by adding one pint of honey to 4 quarts of sugar syrup.

#### STORING SYRUP IN EMPTY COMBS.

Most colonies in my apiary were so contracted that there was little room for honey in brood-combs, and it was not to be extracted, but as soon as the sections were removed, a suffi-

cient amount of sealed stores was given from other hives. One colony in the home apiary had been employed for a month in storing syrup in empty brood-combs, which, as soon as they were filled and sealed, were removed and replaced by empty combs. These were carried to an out apiary, where I make "short stops," and cannot feed in the usual way. I also use them late, if needed, after it is too cold to feed syrup.

I obtain bees that are condemned to the fumes of brimstone, and successfully carry them through the winter in this way. In most cases I cause all of this feed to be used early in the spring, and feed more before the time for sections. Should any remain, my system of management absolutely prevents all possibility of its being carried into the surplus sections.

Pawtucket, 3 R. I.

For the American Bee Journal.

### Separators for Old-Style Heddon Case.

M. MILLER.

I have seen communications from bee-keepers who use the old-style of Heddon section-case, who expressed a desire to use separators between the rows of sections, but could not do so without using a separate separator with each section, which is too much trouble, the trouble arising from the peculiar construction of the case. I will now give a description of a device which can be used in connection with the Heddon-case, which changes it so that separators can be used, or not, just as the bee-keeper desires. It is as follows:

First cut some strips of wood (pine is good enough) as long as the case is wide; plane these down until they are about 7-16 of an inch one way, and scant ¾ of an inch the other way. Then cut out some strips of heavy tin 7-16 or one inch wide, and the tin strips of the same length as the wooden sticks; nail the tins on the sides of the sticks that measure scant ¾-inch across the base, using ¼-inch wire nails. Let the tins project 3-16 of an inch on one side of the sticks, putting the nails about 1½ inches apart; then put the device in a good clamp, and fold the sides of the tins which project 3-16 of an inch over on the stick. Now turn the stick right over, and fold the tins that project ¼ of an inch out from the stick at right angles, and that part is done. Now get out some more sticks the same length and size of the sticks on the tins. Plane off the two corners on the same side of the sticks, and the device is done.

Remove the three partitions from the inside of the case, and nail some small pieces of very heavy tin right beneath where the partitions were on each side, letting them project inside of the case about ¼ of an inch, for the ends of the device to rest on. Drop one of the devices in where each partition was; put in the sections, then drop in the separators, and last put in the strips with chamfered corners

down so as to enter easy. Make the strips to fit snugly. If separators are not used, tack small pieces of tin across each end of each stick, to keep it from falling too low down between the sections.

The advantage of this device is, that the case can be emptied at one move, like the T-super used by Dr. C. C. Miller and others. T-tins, like those made with wooden centres, are a great deal stronger, and are not so liable to get bent and kinked as the common style of T-tins.

Let some of the readers try a few of these devices, and see how they like them. If they do not like them they can put in the partition again.

Le Claire, Co. Iowa.

Prairie Farmer.

### The Bee's Legs and Feet.

MRS. L. HARRISON.

At the late bee-convention in Chicago, Prof. Cook, of Michigan, gave a very interesting and instructive lecture on the legs of the bee, with illustrations many thousand times magnified. The microscopic study of the bee has lately received a new impetus by the visit of Mr. Cowan, editor of the *British Bee Journal*, who brought to this country a microscope acknowledged by experts to be one of the finest they had ever seen.

In looking at these illustrations, it is easy to see how the bees gather up the pollen and store it in their baskets. It would seem to appear by the law of "the survival of the fittest," as age upon age has rolled away, that these baskets have increased in size. As an illustration, take the island of Cyprus, which, added to a sterile soil, has dry scorching winds, parching everything in the form of vegetation. The inhabitants of this island never feed the bees, therefore those only survive such an ordeal which possess the greatest endurance and the largest amount of stores. Where there are colonies equal in numbers, and some of them store surplus while others are starving, it shows conclusively that some of them possess attributes which are lacking in others. They may have stronger wings, and can fly further and faster, or have larger tongues, which enables them to reach nectar which the others cannot, or have larger receptacles for carrying pollen, thereby enabling them to rear more workers.

This fall I was showing a visiting bee-keeper a feeder which was merely a solid block of wood with holes cut into it by a wobbling saw, into which the feed could be poured. He remarked that if I put that on a hive, full of syrup, in a short time it would be full of drowning bees. It had been given to me for trial, and I had never used it. As I was then feeding a colony short of winter stores, I filled it and put it on a hive. When I went to look after it, I found the feed all gone, the feeder dry and clean, and no dead bees in it.

I then filled some wooden butter dishes, and found that without any



floats, it was all carried down, without any being drowned. I was puzzled at this, for if a vessel of earthenware, tin or glass had been used in this way, it would have been full of drowning, writhing bees. It was made plain at the convention why this is so. When a bee walks on wood, his tarsi or feet take hold with a sort of grip, but he cannot do this on a smooth surface like glass. When a bee's feet are dry, and it walks upon glass or tin, its feet secrete a sticky substance which enables it to hold to the surface.

If a pane of glass is examined with a microscope after a bee has run up and down it, its tracks can be seen, and this is what discolors the white comb, if it is left long on the hive after it is sealed. I have often noticed that glass was sticky after bees had been running up and down on it, and supposed that it was a wax secretion.

The delay of winter has allowed the bees time to get ready for cold weather.

Peoria, Ills.

For the American Bee Journal.

### Season's Results—Sweet Clover.

D. R. ROSEBROUGH.

The past fall was so dry that white clover was killed out, and the fall rains were so late that it is very small and tender. If we have a hard winter it will all be killed, and if that should be the case, we will have no honey in 1888 here. I have 58 colonies in good condition. I did not have a swarm this year, and 500 pounds will cover my crop of honey. It was my fault, and not the fault of the bees; for in May and June, when I should have been at work with the bees I was at my work of township assessor; in fact I tried to keep the bees back so I could get through with assessing before swarming commenced; but by the time I was through assessing, the honey-flow was over, and I lost about \$500 worth of honey, and my office brought me only \$150.

Perhaps some would like to know how I can tell that I lost so much. It was in this way: Two or 3 colonies that were close to the house I fed a little honey between apple bloom and white clover bloom, and they stored about 80 pounds each. Those that I did not stimulate by feeding, did not store a pound. I had plenty of honey to have fed all the bees that I had, as much as I did those that I did feed. Still there is something to be learned, and that is, to attend to that which will pay the best.

The bees are in good condition. Honey brings 20 cents per pound here in the stores.

#### PLANTING SWEET CLOVER.

To get a good stand of sweet clover, follow these directions: Plow the ground in the same way that you would plow it to plant corn or potatoes; and then from a place where the sweet clover has a stand, dig it up by the roots and set it out as you

would cabbage. If it is planted in rows as corn, or thicker, it would do better. You can have a stand every time in this way. It will grow and bloom the first year, and seed the ground, and it will give no further trouble.

Casey, Ills., Dec. 16, 1887.

For the American Bee Journal.

### Fastening Foundation in Sections.

ELIAS FOX.

It would seem from Mr. Eden's remarks on page 790, that there had been no satisfactory method developed for fastening foundation in sections. My method is satisfactory to me, although it lacks one of the features which Mr. E. terms "speed," although for neatness and strength I do not think that it is surpassed by any, and it is done speedily enough for me.

The implement which I use is simply a piece of thoroughly seasoned hickory (although any hard wood will do) 5 inches long,  $\frac{1}{2}$  inch thick, and 1 inch wide, at the widest end, this end being shaped like the end of a putty-knife, and nicely rounded, polished, and oiled. I cut the foundation in pieces about one inch square, and set my sections on the work-bench; take the foundation in my left hand, and the implement in my right, and use it just the same as if putting glass in a window.

In the summer the wax is perfectly pliable, so the foundation can with perfect ease be brought to the proper shape, where I will guarantee that it will stay, no matter which side of the section is down. I can put in 300 starters in an hour, and not one in 500 will come out, no matter how smooth the section is. In cold weather, of course, the work will have to be done in a warm room. I have practiced this method for three years with perfect success.

My idea of using so small a piece of foundation is, that it entirely does away with the leathery "fish-bone" which is so much complained of.

Hillsborough, Wis.

Bee Keepers' Magazine.

### Causes of a Light Honey-Crop.

JOSHUA BULL.

The winter of 1886-87 was notable for its severe and long-continued cold period. My bees, wintered upon the summer stands, did not get an opportunity to have a good flight from Nov. 2, 1886 to March 9, 1887. I examined them all at the latter date, and every colony had capped brood in three or four combs. I never saw bees in better condition at that time of the year.

On April 10 they commenced to bring in fresh pollen, and things looked very encouraging, but from some cause the old bees seemed to disappear about as fast as the young ones hatched, so that on May 1 they

did not appear to be much stronger in numbers than they were in March; but by the last of May some colonies were just boiling over with bees.

White clover blossoms began to appear on May 30, and by June 10 there was an abundance of it in bloom; but thus far it did not appear to yield much, if any, honey. From June 10 to June 16 honey came in quite freely. Some colonies nearly filled a case of sections during these few days; and let me say right here, that this was the driest time we had during the summer. During the night following June 16 we had a heavy thunder shower, and for the next eight days the bees made no perceptible increase in the supers. On June 24 they began to work more lively, but stored surplus quite slowly.

Basswood blossoms began to open the last of June, but did not appear to secrete much nectar until July 4. From July 4 to July 27, inclusive, it yielded fairly well, and then it was all over; our harvest of white honey was done, and a very light crop it was indeed. Bees continued to gather a little honey from corn-tassel and other miscellaneous blossoms sufficient to keep up brood rearing.

About July 25 buckwheat, golden-rod, celendine and thoroughwort began to bloom; these, with a succession of other autumn flowers, supplied a continuous moderate flow of honey until Sept. 20, although the forepart of the month was too rainy and cool for bees to do much. From Sept. 15 to Sept. 20 it was warm, fine weather, and the bees worked lively and stored honey freely. During August and September they stored more honey than they did in June and July. This was the best flow of fall honey that we have had for the last five years. All bees in this vicinity are well supplied with food for winter without any feeding.

It appears to be a very general complaint from almost every quarter, that the honey crop of 1887 has been unusually light, and the cause is almost unanimously attributed to drouth; but I apprehend that the dry weather was not the only cause, nor do I think it was the principal cause of the failure of the honey crop. If such were the case, how could it happen that the best flow of honey that we had last summer came during a few days right in the very driest time in the whole season; while just before, and immediately after, there appeared to be very little or no nectar in the flowers? That is the way it worked in this locality, as near as I could discover, and I watched things pretty carefully, or at least I tried to.

I think it was the late Moses Quinby who said that the best time for bees to store honey is when the farmers begin to complain of the need of rain, or words to that effect, and my experience coincides with that sentiment. Now, in this immediate vicinity, it was not so extremely dry during the past summer as to affect the field crops very badly, although more rain would, no doubt, have been beneficial to them, yet the honey crop was no better here in June and July

than in many other places; and the same condition of things appears to have existed in other localities also.

In the AMERICAN BEE JOURNAL, page 618, W. J. Cullinan, of Mt. Sterling, Ills., makes the following statement: "We have had this year, without exception, the largest wheat and oat crop that was ever known in this section of the country, and I see the same recorded for Missouri and other States. We had a fair crop of hay, and will have more corn than we had last year. We have double the yield of clover seed than was ever known before. It is true that the honey crop has been a partial failure."

I desire to call special attention to that part of Mr. Cullinan's statement wherein he says, "We have double the yield of clover seed than ever was known before." Now, the complaint is almost universal from Illinois, Iowa, and Wisconsin, and many other places, that the yield of honey from white clover was very light indeed, notwithstanding the fact that clover bloomed profusely and yielded seed abundantly, at least in some places where the honey crop failed.

From the foregoing I draw the conclusion that it was not altogether the lack of rain that cut the honey crop short the past season.

A pertinent and interesting query very naturally arises at this point: What, then, is the reason the flowers did not supply their usual quantity of nectar? If I were called upon to answer this question, I should freely admit that I do not know. But judging from appearances, I have formed the opinion that the failure did not result altogether from the want of rain, but was also equally due to some peculiar state of the atmosphere, which I do not fully understand, and therefore cannot explain satisfactorily even to myself. I am not a scientist. The secretion of nectar in the flowers is a very delicate process, achieved only by the spontaneous action of natural laws which are dependent upon suitable atmospheric conditions for the fulfillment of their functions; and are very sensitive to any interruption of, or changes in, those conditions. Even the changing of the wind from one point of the compass to another, will sometimes appear to suspend the operation altogether for the time. We can understand the effect, although we may not be able to comprehend the "why and wherefore" concerning it.

Every one that has had much experience with maple sugar, is doubtless familiar with the fact that the flow of sap from the trees is governed almost wholly by the state of the atmosphere. When the conditions of the atmosphere are just right there will be an abundant flow of sap; when they are not right no sap can be obtained, although there may be no visible difference in outward appearances. Is it not reasonable to suppose that the flow of nectar in flowers is equally as much affected by atmospheric conditions, as is the flow of sap in the sugar maple?

Seymour, O. Wis.

For the American Bee Journal.

## Managing Swarms—Interesting Relic.

E. L. HOLDEN.

I began the last winter with 14 colonies on the summer stands, all being packed in sawdust. All but one came through the winter in good condition, and that one was destroyed by mice. From these 13 colonies, and two new ones, I took 563 one-pound sections of honey, and 251 two-pound sections, making some over 1,000 pounds of comb honey.

My method of managing was, to take out all queen-cells, and then return the swarm to the old hive, when a swarm issued. I do not like this way, because I never know when the bees are through swarming. In some instances they came out again in six days after being returned, with sealed queen-cells. In other cases they would come out in two days, but not with sealed queen-cells. My bees began swarming on May 16, and the last swarm issued on July 16.

I was 73 years old last May, and have had the management of bees, to some extent, ever since I was large enough to handle a bee; and the more I see of them the more interest I take in them.

### AN OLD RECEIPT.

I have a receipt for the right to use the Langstroth hive, signed by the hand of L. L. Langstroth, in Greenfield, Mass., and dated Feb. 18, 1858, nearly 30 years ago. The receipt was for \$5. I am glad to hear of the good health of the inventor of the movable-frame.

N. Clarendon, Vt., Dec. 13, 1887.

For the American Bee Journal.

## Uncapped Honey—Consumption Cure.

JOHN A. RICKENBACHER.

The past season has been another total failure in this locality, making three years of failure out of the last four years here. When fruit bloom opened, the bees gathered a little honey from that source. White clover was a failure, but the bees gathered enough honey from linden bloom to carry them through until fall bloom, from which they gathered barely enough to last until spring. My bees had a great deal of uncapped honey, and some had nothing else but uncapped honey when I packed them for the winter, which was about the last of October. Do you think they will winter well on that kind of honey, if other conditions are right? I am going to try it. The honey is thick, and of a good quality.

I had a conversation with a groceryman in Columbus, last summer, who told me that this was the first summer for a number of years that he could get no honey to sell. What has become of the comb honey manufacturers? Has the disastrous year killed them? Two years ago a man told me that there was a firm in Columbus

that was selling manufactured comb honey, but I hear nothing of them now. I suppose that they have also gone to sleep with the rest.

The following is a good recipe for consumption: To two ounces of all-copaign roots add two quarts of water, and boil down to one-half; then add one quart of honey, also 5 cents worth of the best licorice stick, and boil down to one-fourth. A dose is a table-spoonful, to be taken before each meal.

Gahanna, O., Dec. 13, 1887.

[Being thick honey, even though uncapped, it will probably answer very well.—Ed.]

For the American Bee Journal.

## No Complaints—Odorless Foul Brood.

WM. B. M'CORMICK.

While others are complaining so much about the last season being so poor for honey, I have no reason to complain, although we have had the driest summer that has been known here for many years. No rain has fallen since the middle of May to the present, at any one time, sufficient to wet the ground 2 inches deep; yet we had enough to keep vegetation in good condition until July 5, when it became so hot and dry that the white clover (our only source of surplus honey) was completely dried up. But about Aug. 1, we had some good showers that started the fall flowers to blooming nicely, and during September and October the bees had a good time, and filled their hives mostly from asters, which was the first time I ever knew them to produce honey to any extent. The honey came in in such quantities that the whole yard, for rods around, was scented with it.

My crop from white clover was 1,800 pounds, which has been disposed of in my home market at 20 cents per pound. Some of my colonies produced from 90 to 120 pounds each.

I have wintered my bees the last two winters without any loss, excepting one or two that became queenless. I winter part on the summer stands, well packed, and part in the cellar. Those wintered out-of-doors I think stand the sudden changes in the spring better than those wintered in the cellar.

### ODORLESS FOUL BROOD.

I was very much interested in the article on "Odorless Foul Brood," on page 730, as that exactly described the kind of foul brood that we are plagued with in this locality, and what a few years ago destroyed nearly all the bees in this county, as well as in several of the adjoining counties. Also the remedy there recommended is what I have been practicing, and I find it effectual, and I do not fear the disease now as much as I do spring dwindling or bee diarrhea.

I am not yet satisfied as to its origin, but I am rather inclined to believe that it comes from chilled



brood. The Italians are not as liable to be affected by it as the blacks, and much more likely to overcome it if attacked. In fact, I have had several Italian colonies to recover, that were badly diseased, and from all appearance they became perfectly healthy without any doctoring; but I would not advise waiting a day to treat any colony, but would apply the transferring remedy upon the first appearance of the disease.

Uniontown, Pa., Dec. 11, 1887.

### Local Convention Directory.

1888. *Time and place of Meeting.*  
 Jan. 7.—Susquehanna County, at New Milford, Pa.  
 H. M. Seeley, Sec., Harford, Pa.  
 Jan. 10.—Cortland Union, at Cortland, N. Y.  
 R. L. Weaver, Sec., Dryden, N. Y.  
 Jan. 10, 11.—Ontario, at Woodstock, Ont.  
 W. Couss, Sec.  
 Jan. 10, 11.—Ohio State, at Columbus, Ohio.  
 Frank A. Eaton, Sec., Bluffton, O.  
 Jan. 11.—Nebraska State, at Lincoln, Nebr.  
 Henry Patterson, Sec., Humboldt, Nebr.  
 Jan. 17, 18.—N. W. Ills. & S. W. Wis., at Rockford, Ill.  
 D. A. Fuller, Sec., Cherry Valley, Ills.  
 Jan. 18, 19.—Vermont State, at Burlington, Vt.  
 R. H. Holmes, Sec., Shoreham, Vt.  
 Jan. 17, 18.—New York State, at Utica, N. Y.  
 G. H. Knickerbocker, Sec., Pine Plains, N. Y.  
 Jan. 20.—Haldimand, at Cayuga, Ontario.  
 R. C. Campbell, Sec., Cayuga, Ont.

In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—Ed.

### SELECTIONS FROM OUR LETTER BOX

**Bee-Keeping in Utah.**—Luther K. Stewart, Benjamin, Utah, on Dec. 15, 1887, writes:

Bees have done very well here the past season. I have taken 4,200 pounds of extracted honey, and 300 pounds of comb honey from 30 colonies, and increased them to 46. All the honey was gathered from lucerne and sweet clover. We use the American hive, and winter our bees on the summer stands, as we think that they winter better in this hive than the Langstroth. The AMERICAN BEE JOURNAL is a welcome weekly visitor.

**Late Extracting, etc.**—H. S. Hackman, Peru, Ills., on Dec. 14, 1887, writes:

Yesterday I extracted my crop of honey for 1887, amounting to 28 gallons; I also had about 150 pounds of inferior comb honey. I started with 65 colonies in the spring, had no increase, and I now have 55 colonies safely packed for winter. Last year I started with 42 colonies, increased them to 84, and had 6,000 pounds of honey, half comb and half extracted.

Perhaps I ought to explain about the extracting in winter. I examined my bees about Oct. 10, to see what they had, and get them in condition

for the winter. I work them on the socialist plan, as I take from those that can spare, and give to those that have not enough; and what they have more than both the rich and the poor need, I take for myself, and that is where the 28 gallons of extracted honey came from. I have several times extracted honey before this in the winter, by bringing it near a stove to get it warm enough; but this time I put it over an old-fashioned heating place in the green-house, and it worked like a charm, equal to any I have done in the summer.

**An Old Subscriber.**—George Ball, Danbury, Conn., on Dec. 17, 1887, says:

I have taken the AMERICAN BEE JOURNAL for 23 years, and never missed but one number. I sometimes wonder how many of the subscribers can say that. I am now old and broken down, and must give up keeping bees.

[It is refreshing to hear from the old stand-bys. Mr. Ball has taken the AMERICAN BEE JOURNAL ever since it started, and as he has lost only one number in that time, it would be almost impossible for any one to do much better.—Ed.]

**Wintering Bees in Depositories.**—J. W. Bittenbender, Knoxville, Iowa, on Dec. 19, 1887, writes:

Bees that have been taken care of and supplied with winter stores are in fine condition. My 120 colonies have been in a cave for 33 days. Every one was weighed when put into the cave, and I will weigh them when I take them out. I also put 2 colonies in on Oct. 24, and weighed them; up to Nov. 18 they consumed one pound of honey per colony; while on the same day (Oct. 24) I weighed 20 colonies and left them on the summer stands; they consumed 3 pounds per colony. This is another point in favor of putting bees in winter depositories early.

**Flat or Natural Base Foundation, etc.**—Clarence W. Wilkins, Cortland, N. Y., on Dec. 19, 1887, writes:

The financial benefit derived directly from the apiaries in this section the past season has been slight; indeed, so slight that some apiarists have scarcely received enough from their bees to repay them for the necessary labor expended in their care. From a spring count of 13 colonies, I increased to 25, with a surplus of about 600 one-pound sections of very good clover and basswood honey; buckwheat yielding scarcely enough to be worth mentioning. The bees still have enough for winter stores, which is far superior to the condition of numerous colonies throughout the country, unless they have been fed considerable. This yield which I received is far better than the average, being about 48 pounds per colony,

spring count; so that I think I ought, and am content with my results.

1. Which is the most profitable for the bee-keeper to use, flat or natural bottom foundation in the one-pound sections for the production of comb honey? 2. In how large, and what shape pieces should it be cut to render the apiarist the best results?

[1. Either will answer. Some prefer one kind, and some the other.

2. Fill the sections with comb foundation. It will pay to do so.—Ed.]

**Bees had a Good Flight.**—Herbert Clark, Palmyra, Iowa, on Dec. 15, 1887, says:

My bees had a good flight yesterday. There was only a little snow on the ground. I took off the caps on one cold, windy day, and to my surprise I took out 200 pounds of nice comb honey, and then filled the caps with forest leaves. The coldest day so far was Nov. 27, being 17° below zero.

### Convention Notices.

The next meeting of the Nebraska State Bee-Keepers' Association will be held on Jan. 11, 1888, at Lincoln, Nebr.

HENRY PATTERSON, Sec.

The annual convention of the Vermont State Bee-Keepers' Association will be held at the Van Ness House, in Burlington, Vt., on the Jan. 18 and 19, 1888.

R. H. HOLMES, Sec.

The Ontario Bee-Keepers' Association will hold its annual meeting at Woodstock, Ontario, on Tuesday and Wednesday, Jan. 10 and 11, 1888.

W. COUSE, Sec.

The Hardin County Bee-Keepers' Association will meet at the Court House in Eldora, Iowa, on the second Saturday in each month, at noon (12 o'clock), until further notice.

J. W. BUCHANAN, Sec.

The Cortland Union Bee-Keepers' Association will hold their annual meeting at Cortland, N. Y., on Tuesday, Jan. 10, 1888, for the election of officers and to transact such business as may come before the meeting. All bee-keepers are invited.

R. L. WEAVER, Sec.

The Susquehanna County Bee-Keepers' Association will meet at New Milford, Pa., on Jan. 7, 1888. Subjects for discussion: "The Best Way to Prevent Swarming," and "Is it Advisable to Italianize Colonies?" All bee-keepers are cordially invited.

H. M. SEELEY, Sec.

The annual meeting of the Northwestern Illinois and Southeastern Wisconsin Bee-Keepers' Association will be held in G. A. B. Hall, corner of State & North Main sts., in Rockford, Ills., on Jan. 17 and 18, 1888. Dr. Miller will be present, and a good programme is in course of preparation.

D. A. FULLER, Sec.

The fifth annual Ohio State Bee-keepers' Convention will be held in the United States Hotel, corner High and Town sts., Columbus, O., on Jan. 10 and 11, 1888. An interesting programme will be arranged. Reduced rates at the hotel are \$1.50 for each person, double, or \$2.00 per day if single. There will be reduced rates of travel, particulars of which will be given later. It is desirable to know who can be present. Will you kindly notify me by postal card, at Bluffton, Ohio.

FRANK A. EATON, Sec.

**When Renewing your subscription** please try to get your neighbor who keeps bees to join with you in taking the AMERICAN BEE JOURNAL. It is now so cheap that no one can afford to do without it. We will present a **Bladder** for the BEE JOURNAL to any one sending us three subscriptions—with \$3.00—direct to this office. It will pay any one to devote a few hours, to get subscribers.

## GENERAL INDEX TO VOLUME XXIII.

- Afflictions of an old bee-keeper... 795  
 Amazing ignorance... 339  
 Amount of honey used by bees... 212  
 Analyzing and Ripening honey... 791  
 Anatomy of bees... 809  
 Ancient and modern honey... 595  
 Ant... 609  
 Anti-bee-eraser... 437  
 Ants in the apiary 371, 494, 496, 532, 634  
 Apiary for one man... 190  
 Apiary plundered... 440  
 Apiary roughly handled... 242  
 Apicultural inventions... 195  
 Apicultural patents... 129  
 Apicultural progress... 32  
 Apiculture at Cornell University... 374  
 April work in the apiary... 217  
 Appropriate apicultural terms... 345  
 Are bees trespassers?... 9  
 Arkansas bee-law suit... 37, 339, 379  
 Arranging hives in the cellar... 772  
 Autumn... 723  
 Average life of bees... 681  
 Versions of bees... 681  
 Bare-headed bees... 470, 556, 569, 691  
 Basewood vs. Linden... 23, 693, 709, 820  
 Bee and bird and butterfly... 696  
 Bee and the butterfly... 789  
 Bee and honey shows... 497, 565, 695  
 Bee-cellars... 61, 219, 619, 624  
 Bee-feeders... 186, 565, 615  
 Bee-forage a necessity... 423  
 Bee-hat for protection... 136  
 Bee-hives and hives... 774  
 Bee-house for winter... 515  
 Bee-keeping—healthy occupation... 312  
 Bee-keeping alone or with other pursuits... 342, 682, 774, 779  
 Bee-keeping and horticulture... 696  
 Bee-keeping as a business... 535, 631  
 BEE-KEEPING—  
   in Arizona... 43  
   Arkansas... 714  
   California... 394  
   Canada... 761, 762  
   Central Illinois... 56, 111  
   Cuba... 111  
   Cumberland Mountains... 697  
   England... 691  
   Florida... 331, 390, 587, 701  
   Georgia... 763  
   Idaho... 196  
   Indiana... 763  
   Iowa... 491, 683, 701  
   Japan... 243  
   Kansas... 693  
   Massachusetts... 554  
   Minnesota... 540  
   Missouri... 502, 6-9, 705  
   Nebraska... 75, 583, 6-9, 715  
   Norway... 707  
   Ohio... 555, 632  
   Pennsylvania... 566, 706  
   Rhode Island... 496  
   Russia... 179  
   Scotland... 8-4  
   Tennessee... 779  
   Texas... 170, 507, 583, 715  
   Utah... 825  
   Vermont... 763  
   Washington Territory... 348  
 Bee-keeping in the future... 89  
 Bee-management... 778  
 Bee-moths... 678  
 Bee-notes... 584  
 Bee-ranches in California... 425  
 Bees and clover... 259, 707  
 Bees and fruit... 279, 379, 392, 451, 806  
 Bees and grapes 171, 243, 277, 419, 438, 528  
 Bees and plants... 86  
 Bees a sacrifice to prejudice 362, 391  
 Bees as pest-carriers... 246  
 Bees as "pomologists"... 359  
 Bees bee-hives, honey and money 334  
 Bees carrying out brood... 72  
 Bees do not freeze... 316  
 Bees do not make honey... 681  
 Bees dying in winter... 4  
 Bees in a bell... 419  
 Bees in a cave... 90  
 Bees in a wall of stone... 371  
 Bees in cities... 379  
 Bees in law... 89  
 Bees in winter quarters... 87  
 Bees knowing their homes... 679  
 Bees on shores... 191, 429  
 Bees ordered removed... 768  
 Bee-space above the sections... 212  
 Bee-spaces between cases... 82  
 Bees purchased without a queen... 420  
 Bees reared in old combs... 4-4  
 Bees refusing food... 107  
 Bees refusing to accept hives... 132  
 Bees robbing in winter... 37, 332, 347, 348, 363, 395, 396  
 Bees sipping blood... 244  
 Bee-stings 444, 467, 474, 491, 524, 503, 681  
 Bees turning black and dying... 438  
 Bees under the snow... 59  
 Beeswax... 331, 439, 659, 668, 689  
 Bees working in sections early... 59  
 Beginning in bee-keeping 650, 711  
 Benefits of a poor season... 684  
 Best bees for comb-building... 164  
 Better bee-keeping needed... 329  
 Big bee-state... 243  
 Big crops of honey... 5  
 Black bees... 656  
 Black bees of Tasmania and their medicinal honey... 391  
 Blank strip section-case... 516  
 Board to retain heat... 586  
 Bone ashes and tartaric acid... 646  
 Booming the business... 514  
 Bottom-boards in winter... 86, 724  
 Boring beetles... 635  
 British Beekeepers' Association... 725  
 Brood-combs for winter... 612  
 Bug-juice... 587, 619  
 Building air-castles... 259  
 Building combs between stories... 459  
 Build up colonies 116, 212, 298, 405, 576  
 Building up nuclei... 134  
   California bee-suit... 119  
   California honey market... 119  
   Canadian bee-law suit... 35, 164  
   Canadian honey crop... 67  
   Canadian Linden honey... 791  
   Can bees hear? 121, 201, 215, 334, 247, 249  
   Cappings 71, 102, 152, 184, 232, 297, 297  
   Carniolan-Italian bees... 190  
   Catching swarms... 181  
   Caves of honey and beekeeping... 459  
   Cause of drouths and cyclones... 615  
   4-7, 539, 542, 613... 615  
   Cause of light honey crop... 823  
   Cause of low prices for honey... 231  
   Cellar-ventilation... 11  
   Cellar work during wintering... 640  
   Cellar wintering... 42, 157, 294, 311, 640  
   Chaff hives... 14, 154, 185  
   Characteristics of best bees... 180  
   Chilled bees... 643  
   Cider-mills and bees... 42, 168  
   Clipping queens... 91, 604, 711, 748  
   Clover chaff for packing... 122  
   Close of Vol. XXIII... 839  
   Colonies that killed their queens 676  
   Colonies without eggs or brood... 564  
   Comb honey production... 100, 215  
   Comb honey vs. extracted honey... 695  
   Comb foundation 130, 132, 1-5, 467, 740  
   Commission men... 88, 90, 279, 759  
   Comparing samples of honey... 6-3  
   Compelling a swarm to cluster... 299  
   Consumption cure... 626  
   Contracting the brood-nest... 180, 325  
   Controlling honey markets 24, 315, 758  
 CONVENTIONS—  
   Colorado... 89  
   E. Iowa and W. Illinois... 151  
   Guelph, Ont... 217  
   Haldimand, Ont... 390, 582  
   Hardin Co., Iowa... 789  
   Illinois Central... 59  
   Iowa Joint... 693  
   Kentucky... 696  
   Linwood, Wis... 587  
   Marshall Co., Iowa... 194  
   Michigan... 396, 805  
   Nebraska... 119, 648  
   North American... 17, 451, 467, 474, 491, 682, 739, 742, 756, 772, 774  
   Northern Illinois... 86  
   N. W. Ills. and S. W. Wis... 554  
   Ohio... 70  
   Ontario... 40  
   Pan-Hart, W. Va... 214, 778  
   Progressive, Ohio... 497  
   Union at Albany, N. Y... 38  
   Vermont... 87  
   Wabash, Co., Ind... 294  
   Western... 791  
   Wisconsin... 182  
 Cost of the production of honey... 757  
 Counteracting fermentation... 211  
 Cowan's (Mr.) visit... 569, 579, 727  
 Cyprine bees... 602  
 DEATH NOTICES—  
   Mrs. Ira Barber... 163  
   Henry Ward Beecher... 163  
   Mrs. F. C. Benedict... 163  
   A. T. Blauvelt... 163  
   J. E. Boyon... 390  
   John Burch... 497  
   Dr. A. Butlerow... 131  
   Joseph J. Enas... 467  
   Jno. D. Van Gorden... 467  
   James Harper... 163  
   John Jacobus... 779  
   Eugene Francis Jones... 275  
   J. R. Lindley... 248  
   C. C. Richardson... 467  
   Mrs. C. Shinder... 323  
   Hon. Louis Wallbridge... 723  
   B. F. Woodcock... 515  
 Dairy-men and bee-keepers... 259  
 Dampness in a bee-cellar... 36, 345  
 Dark cellar window... 299  
 Dark honey... 247, 395, 645  
 Dark substance stored by bees... 452  
 Deep or shallow frames... 473  
 Depression in the honey market... 247  
 Detecting glucose... 419  
 Development of queens... 426  
 Developments of bee-keeping... 994  
 Diseased bees... 367  
 Display at the Toronto exhibition 694  
 Distinguishing swarms... 133  
 Disturbing bees in brood-chamber 23  
 Disturbing bees in winter... 8, 57, 169  
 Dividing for increase 3-8, 346, 388, 411  
 Division-boards... 443, 471  
 Do bees select a home before swarming?... 805  
 Doolittle G. M. (biographical)... 264  
 Doolittle's report for 1897... 677  
 Down-right dishonesty... 199  
 Double bee-spaces over brood... 500  
 Double hives for wintering... 29  
 Double-walled hives... 115  
 Doubling up late swarms... 104  
 Drone-comb... 213, 295, 628  
 Drone-eggs... 4  
 Drones... 43, 234, 383, 437  
 Drone-traps... 404  
 Drouth in England... 681  
 Drouth in Texas... 267  
 Ducking for covers... 506  
 Educating people on bee-keeping 714  
 Effects of drouth... 501  
 Eight-frames vs. 10-frame hives... 241  
 Elongated cells... 443  
 Empty hives and combs... 693  
 English honey exhibit... 40  
 Essentials to success... 2-4  
 Establishing out-apiaries... 777  
 Ethical principles... 179  
 European visitors... 411  
 Evaporating honey... 681  
 Examine the colonies... 447  
 Examining bees... 170  
 Excessive increase... 548  
 Experiences with bees... 42, 167, 123, 171, 242, 226, 230, 394, 491, 594, 601, 697, 715... 778  
 Experiment on ventilation... 263  
 Experiments with bees... 643, 6-3  
 Extra combs for extracting... 44, 137  
 Extracted honey... 89, 91, 104, 277  
 132, 171, 242, 226, 230, 394, 491, 594, 601, 697, 715... 757  
 Extracted honey—new names for... 339  
 485, 443, 457, 459, 460, 474, 476, 487, 488, 490, 491, 502, 505, 506, 507, 508, 522, 524, 531, 539, 540, 551, 554, 555, 556, 566, 570, 571, 586, 684, 689... 715  
 Extra honey 216, 270, 277, 346, 548  
 Eyes of the bee... 619, 691  
 Facts about honey and bees... 502, 602  
 Fall work in the apiary... 821  
 Fall honey in sections... 821  
 Falsely accused... 275  
 Fastener beekeepers... 339  
 Fastening foundation... 233, 235  
 553, 740... 823  
 Fastenings for square-joint hives 796  
 Fastening of bees... 647, 696  
 Father Langstroth... 771  
 Feeding bees 36, 68, 168, 203, 259, 442, 624, 778... 822  
 Feeding bees for winter 101, 135, 5-6, 547, 565... 821  
 Feeding granulated honey... 496  
 Feeding honey in musty combs... 298  
 Feeding maple syrup... 234  
 Feeding sugar syrup... 100, 162, 546  
 Feeding to rear drones... 694  
 Feeder's bees... 643  
 Fertilizing queens... 197, 474, 507, 693  
 Filling sections with store-combs 372  
 Finding the queen... 316  
 Food or natural base foundation... 825  
 Food of the queen... 8-2, 822, 823  
 Flowers fertilized by bees... 475  
 Food of the queen-larvae... 310  
 Foolish abbreviations... 483  
 Foolish warfare against bees... 323  
 Forbidden honey ate by Jonathan... 711  
 Forced respiration in bees... 682  
 Foul brood... 74, 167, 393, 426, 470, 472, 474, 548, 684... 746  
 Foul brood and dead brood—difference... 599  
 Foul-broody combs... 167  
 Foundation in brood-frames... 345, 490  
 Foundation in sections 341, 421, 458, 571  
 Frames for extracting... 212  
 Frames partly filled with pollen... 586  
 Frequent flights for bees... 155  
 Fruit and honey crops... 697  
 Fuel for bee-smokers... 540  
 Full colony of B's... 682  
 Fumigating comb honey... 712  
 Gasoline stove for bee-cellars... 49  
 Gathering of the clan... 735  
 Getting bees into the sections... 138  
 Getting bees out of the sections... 115, 147, 196, 214, 223, 233, 268, 323, 377, 446, 485, 586, 687, 696, 595, 688, 743, 755... 778  
 Getting honey instead of increase 576  
 Gift-edged honey... 396  
 Giving queen-cells to nuclei... 740  
 Glazed and unglazed honey 87, 107  
 Good prices for honey... 133, 213  
 Green-house cellar for bees... 26  
 Grizzly bear and the bees... 518  
 Hand-holes in crates... 155  
 Handling bees... 117, 681, 691  
 Harvesting the honey... 197  
 Head of the bee-larva... 515  
 He don, James (biographical)... 326  
 Helps in bee-keeping... 72  
 Hermaphrodite bees... 647  
 Hibernation... 405, 647, 695  
 High vs. low salaries... 632  
 Hints to beginners 346, 375, 391, 422, 681  
 Hive-entrances... 618  
 Hive-entrances in winter... 198  
 Hives, frames and sections... 53, 198  
 222, 295, 5-4, 645... 694  
 Hiving swarms 285, 308, 371, 442, 453, 472... 715  
 History of bees... 390, 467  
 Holy-Land bees and Italians... 532  
 Home markets for honey 67, 69, 387, 506  
 Honey and pollen yielding trees... 267  
 Honey and the human system... 294  
 Honey as food... 819  
 Honey as a tooth-preserver... 315  
 Honey at fairs... 419  
 Honey-bird of South Africa... 419  
 Honey-boards... 10, 170, 521  
 Honey-cakes, cookies and ginger-bread... 314, 406  
 Honey-candy... 211  
 Honey comestibles... 643  
 Honey consumed in rearing brood... 182  
 Honey consumption... 647  
 Honey crop for 1898... 281  
 Honey crop of Calif. 195, 358, 363, 454  
 Honey crop of Colorado... 456  
 Honey crop... 454, 490, 524, 538, 570  
 Honey-dew for winter stores... 396  
 Honey for all—no monopolies... 325  
 Honey for bees in winter... 490  
 Honey for lung diseases... 490  
 Honey-house... 556  
 Honey in brood-frames or sections 279  
 Honey in cooking... 806  
 Honey-jumbles... 139  
 Honey-lemonade... 504  
 Honey markets... 6, 698  
 Honey-moon... 391  
 Honey necessary to produce wax 328  
 Honey on commission 67, 71, 314, 529... 778  
 Honey on the market... 519  
 Honey-plants of Canada... 478  
 Honey-plants of Idaho... 478  
 Honey-producers' association 29, 23, 58, 74, 84, 103, 104, 104, 107, 119, 153, 166, 167, 170, 181, 203, 280, 289, 299... 474  
 Honey-producers' convention 135, 275  
 Honey-resources of Iowa... 697  
 Honey sugar... 611  
 Honey-trade in Philadelphia... 811  
 Honey-vinegar... 118, 163, 259, 596  
 Horse and bees... 478  
 House for bees in winter... 436  
 How & why plants produce honey 330  
 How are the bees doing?... 361  
 How bees extract pollen... 708  
 How bees know one another 422, 504  
 How bees make cells... 186  
 How to carry bees... 186  
 How to cut foundation... 186  
 How to sheet wax... 186  
 Hutchinson's new book... 233  
 Imperfect combs in sections... 340  
 Improvements in bee-hives... 277  
 Improving our bees... 600  
 Improving the honey market... 104  
 Increase—colonies 344, 356, 411, 476, 569  
 Indiana ordinance... 323  
 Insect that punctures grapes... 504  
 Interesting relic... 399, 359  
 Introduction of bees... 324  
 458, 517, 677, 711, 712, 740... 741  
 Inverted queen-cells... 229  
 Inverting brood-frames... 370  
 Irascible bees of India... 475  
 Italianizing colonies... 324, 372, 681  
 Italian vs. black bees... 86  
 Items in bee-keeping... 169, 299  
 Jealous Canadians... 531, 533  
 Jolly honey-bee... 168  
 Keeping bees near rivers... 602, 691  
 Keeping comb honey... 245  
 Keeping honey... 128  
 Kissing bees 259, 371, 411, 467, 521, 687  
 Labels for honey... 506, 529  
 Lady presidents... 56  
 Lamp-nursery... 711  
 Language of bees... 697  
 Langstroth's book revised... 787  
 Late extracting... 623  
 Laying in queen-cells... 399, 359  
 Laying workers... 132, 342, 357, 494, 569  
 Leaving hives in January... 244  
 Legislation for bee-keepers 9, 21, 67, 68, 105, 118, 118, 148, 160, 161, 187, 196, 214, 223, 233, 268, 323, 377, 446, 485, 586, 687, 696, 595, 688, 743, 755... 778  
 Legs and feet of the bee 755, 757, 823  
 Lesson from the honey-bee... 696  
 Lesson of our misfortunes... 697  
 Lessons from the ivy... 701  
 Lessons in a culture... 478  
 Liquid or extracted honey 291, 347, 411  
 Little Cotton... 221  
 Locality and populous colonies... 973  
 Locating the queen... 806  
 Location of an apiary... 214, 341  
 Long winter confinement... 283  
 Looking at the bright side... 643  
 Look into a bee-hive... 678  
 Made a mistake... 227  
 Making driven-swarm stay... 306



When it is put on Sections..... 228, 2  
Where is it found ?..... 2  
Why bees eat foundation starters ?..... 7  
Why did the bees perish ?..... 7  
Width of hives..... 40  
Wild honey find..... 179  
Willey's lie 3, 88, 115, 483, 498, 578,  
..... 554, 748..... 7  
Will the colonies winter ?..... 680, 6  
Winter bee-repository..... 252, 3  
Winter care of honey..... 6  
Winter coverings over frames..... 1  
Winter department of bees..... 1  
Wintering bees..... 27, 154, 251, 257,  
..... 857, 400, 691, 695..... 8  
Wintering bees in a cave..... 2  
Wintering in the northern States ?..... 7  
Wintering bees under kitchen 62, 3  
Winter management of bees..... 2  
Winter passages for bees..... 7  
Winter quietude of bees..... 1  
Worker-bee in a queen-cell..... 1  
Worker-comb and drone-eggs..... 1  
Yield from one colony..... 2  
Yucca brushes..... 3  
Zinc queen-excluders..... 1

**CORRESPONDENTS.**

G. W. 823.  
E. 491.  
M. M. 332.  
Donner, 219.  
Favid, 292, 364.  
Fow, 475.  
H. J. P. H., 762.  
H. 476.  
G. A. 347.  
Gob. 539.  
J. Jno. A., 91.  
..... & Bro., J. W.  
naa, 103, 683, 623.  
Amund H., 500.  
A. 795.  
Louis F., 139.  
A. 759.  
D. 459.  
268, 303, 684.  
naa, 0410, 42.  
J. V., 7, 119.  
..... 524.  
E. 714, 792.  
E. C. 391, 593.  
H. 121.  
F., 235.  
..... 147.  
M. 187.  
H. 694.  
G. B. 170.  
A. W. 603.  
M. J. H., 210, 459.  
C. J. H., 345.  
C. J. H., 501, 617.  
C. J. H., 518.  
Frank R., 387.  
John H., 267.  
Son, S. J., 26.  
N. 120.  
Arbors, 825.  
A. 739.  
A. 727, 330.  
Rev. W. F., 40.  
A. 290, 217, 223.  
A. 297, 477, 489.  
..... 699.  
F., 123, 332, 547.  
Cloon & Co., 612.  
Rev. Earle, 304.  
F. W., 23, 67.  
O. O., 341, 437.  
Ark. 478.  
..... 551.  
T. M., 122, 458.  
W. H., 587.  
F. W., 236.  
F. H., 523.  
J. N. 170.  
K. F., 294.  
C. F., 444.  
W. M., 635.  
Joan, 26.  
Rev. W. J., 131.  
H. 296, 310, 321.  
3, 439, 451, 467.  
6, 630, 906.  
Henry A., 538.  
Prof. W. W., 330.  
Eden., 619.  
J. Jacob, 523.  
..... 371.  
H. S., 590.  
nan, E. W., 690.  
Thos. W., 310.  
726.  
D. 741.  
A., 10, 779.  
Andrew, 30, 506.  
C. M., 57.  
Ed. John, 115.  
F. H., 584.  
W., 402, 585, 792.  
Ed. John, 120.  
Hudson, 234.

Cripe, Henry, 123.  
Cronkleton, E. J., 776.  
Crouse, G. 42.  
Cullinan, J. W., 55, 1,  
..... 119, 409, 613.  
Currier, A. F., 170.  
Cushman, Samuel, 111,  
..... 230, 238, 480, 502, 622.  
Cutting, H. D., 490, 61  
..... 627, 695, 748.  
D. P., F., 122.  
Danber, D. D., 203.  
Dart, R., 344.  
Davenport, B. T., 395.  
Davis, C. M., 332.  
Davis, Hiram D., 339.  
Davis, John, 10, 339.  
Davis, Rebecca H., 73.  
Davis, Wm. H., 42.  
Davis, W. J., 235.  
Dayton, C. W., 39, 73,  
..... 183, 194, 203, 208,  
..... 184, 312.  
De Laey, J. S., 328.  
Demaree, G. W., 180,  
..... 201, 297, 343, 421,  
..... 584, 619, 605, 518,  
..... 584, 613, 681, 698, 739.  
Denlinger, J. F., 179, 393.  
Devine, James, 691.  
Devlin, V., 459.  
Dibbern, C. H., 150.  
..... 211, 219, 294, 291,  
..... 329, 391, 427, 458,  
..... 393, 683.  
Dibbern S. H., 151.  
Dodge, J. R., 816.  
Doonlight, G. M., 37,  
..... 181, 203, 213, 245,  
..... 282, 304, 373, 383,  
..... 517, 583, 643,  
..... 740, 757.  
Dorr, Dr. H. R., 235.  
Dougherty, F. L., 185.  
Douglass, Miss M. A.  
Douglass, W. S., 171.  
Downs, Wm., 637.  
Dowda, B., 183.  
Drane & Son, E., 534.  
Duff, A. H., 693.  
Dunkley, Dr. B. F., 3.  
Dunlap, J. B., 778.  
Dunn, J. F., 37, 698.  
Durward, A., 540, 596.

Eastman, Dr. A., 474.  
Eastwood, L., 27, 479.  
Eaton, F. A., 71, 91, 163.  
Eckman, J. W., 625.  
E-son, Ed., S., 615.  
..... 753, 799.  
Ellicott, Thos., 170.  
Emiso, John A., 54.  
Emmons, Mrs. L., 47.  
England, F. J., 27, 96.  
Erlev, Hans, 693.  
Ersvinger, J. 51.  
Evans, J. F., 698.  
E. W. H., 266.  
Ewing, E. E., 42.

Fairbrother, Dart, 49.  
Faurot, H. P., 251.  
Faurot, J. P., 107.  
Feathers, Harvey, 4.  
Fell, K. H., 107.  
Fish, W. G., 589.  
Fisher, E. N., 251.  
Fisher, B. E., 298.  
Fisk, A. W., 11, 490.  
Fletcher, A. P., 251.  
Flick, H. H., 677.  
Foot, E. M., 539.  
Ford, Wm., 390.  
Foster, B. E., 349, 348.  
Foster, B. E., 349.  
Foster, L. M., 78.  
Foster, Oliver, 400,  
..... 443, 562, 535.

- Fox, Cyrus T., 359.  
Fox, Elias, 26, 201, 278, 332, 423.  
Fox, F. C., 454.  
Fraserburg, A. A., 203, 231.  
Freeman, M. H., 234, 731, F. S. C., 203.  
Funk, H. W., 121, 184.  
Fuller, D. A., 554.  
Fuller, E. J., 460.
- Gabriel, Elmer, 363.  
Galley, J. R., 75.  
G. A. S., 403.  
Gear, H. B., 506.  
Gehring, J. D., 58, 91.  
G. E. T., 534.  
Gemmell, Wm., 11.  
George, Milo, 107.  
Gibson, F. A., 27, 267, 380, 778.  
Gibson, P. L., 107, 247, 379.  
Gifford, H. C., 443, 508.  
Gill, M. A., 27, 277, 613.  
Gilliland, John C., 249.  
Gillison, Stephen, 58.  
Ginn, J. N., 300.  
Goodale, Mary A., 792.  
Good, I. R., 365.  
Goodno, O. R., 412, 587.  
Goodrich, Jas. M., 170.  
Graden, E., 342, 347.  
Graves, W. H., 155.  
Graves, Wm. H., 203, 213.  
Green, J. A., 643, 732.  
Gregory, A. B., 347.  
Gresh, Abel, 187, 443.  
Griffin, H., 578, 593, 412.  
Grimshaw, R., 519.  
Grinnell, J. S., 691.  
Grinnell, L., 363.
- Hachenberg, Dr. G. P., 261.  
Hackman, H. S., 825.  
Hall, T. S., 235.  
Hallist, S. 122.  
Hambrecht, Jos. M., 53, 56, 105, 107, 412, 582, 741, 804.  
Hamblin & Bearas, 363.  
Hammersmith, L., 490, 508.  
Hand, J. E., 821.  
Harris, J. L., 549.  
Harris, Louise E., 197.  
Harrison, Mrs. L. H., 11, 58, 211, 291, 391, 411, 442, 459, 470, 547, 611, 617, 644, 675, 691, 718, 722, 822.  
Hart, W. S., 79.  
Haskins, Dr. A., 874.  
Hassler, J. H., 498.  
Hatfield, A. J. & E., 187.  
Havens, R., 187, 190, 348.  
Hawn, J. A., 347.  
Hayden, W. G., 123.  
Hays, J. F., 104, 443.  
Heacock, Jos., 29.  
Heard, John E., 133.  
Heater, Mrs. J. N., 235.  
Heddon, James, 2, 107, 135, 139, 163, 170, 235, 313, 406, 454, 565, 693, 711, 774, 792, 811.  
Heller, Joel, 26.  
Herrick, D. D., 363.  
Herrick, M. M., 427.  
Hershisler, O. L., 833, 046, 811.  
Hewett, C. P., 27.  
Hindhurst, M. M., 791.  
Hicks, J. M., 133, 263, 438.  
Higgins, J. H., 233, 348, 779.  
Highberger, L., 412, 493, 491.  
Hill, Chas., 206.  
Hill, H. E., 121, 363, 470, 601.  
Hill, Thos. E., 437.  
Hill, Wm., 11.  
Hills, Mrs. H., 230, 269.  
Hilton, Geo. E., 115, 131, 215, 234, 379, 490, 491, 540, 707, 807.  
Hines, Thos. O., 475.  
Hoffman, Julius, 532.  
Hobbs, W. T., 197.  
Hobbs, Henry, 108.  
Hoke, Abe, 42, 235, 266, 443, 731.  
Holden, E. L., 824.  
Holden, James, 810.  
Hollinsworth, C. M., 86.  
Holt, Francis M., 540.  
Holtermann, R. F., 24, 170, 347, 491, 781.  
"Honey-dew," 632.  
Hopkins, D. E., 171.  
Howe, J. H., 779.  
Howell, J. W., 187.  
Hoyle, Geo. H., 383, 472.  
Hoyt, Wm., 408, 536.  
Hoxie, Dennison, 491.  
Hubbard, E. I., 508.  
Hubbard, J. L., 183.  
Hunt, Aaron, 120.  
Hunt, M. H., 189.  
Hunt, H. F., 762.  
Hutchinson, I., 377, 473.  
Hutchinson, W. Z., 42, 71, 135, 152, 294, 232, 267, 276, 280, 293, 311, 325, 341, 357, 379, 410, 421, 439, 451, 456, 471, 579, 582, 649, 771, 774, 805.
- Irwin, James, 332.  
Irwin, Wm., 347.
- Jackson, Mrs. O. F., 400.  
Jacobus, Miss Edna, 779.  
Jacobus, Julius O., 523.  
James, Robt., 108.  
Jamieson, Jno., 506, 600.  
Janitz, David, 74.  
Jardine, Jas., 282, 635.  
Jarvis, E., 427, 523.  
Jarvis, Samuel, 444.  
J. B., 155.  
Jenkins, J. M., 305.  
Jennys, Rev. F. G., 771.  
J. F. S., 123.  
J. M. B., 593.  
Job, Wm. L., 443.  
Johnson, F. M., 10.  
Johnson, Jas. F., 793.  
Johnson, Mrs. J. M., 403.  
Johnson, J. P., 667.  
Johnson, J. W., 91, 155.  
Johnson, Theo., 498, 703.  
Johnson, T. P., 467.  
Johnston, Chas., 693.  
Jones, C. E., 691.  
Jones, D. A., 776.  
Jordan, E. C., 51, 480.  
Jordan, E. T., 412.
- Keating, Patrick, 426.  
Keeney, E. D., 43, 379.  
Keeney, V. W., 507.  
Keller, A. D., 393.  
Kellogg, W. M., 603, 730.  
Kennedy, D. V., 43.  
Kennedy, F. H., 412.  
Kerchell, A. E., 569.  
Kerr, W. H., 59.  
Keyes, L. J., 24.  
Kinsel, T. F., 226, 379, 441, 474, 555.  
Kinsey, W. L., 215, 773.  
Kleinow, Otto, 187.  
Knight, W. C., 362.  
Koher, W. O., 539.  
Kouba, A. V., 747.  
Kruschka, H. O., 247, 457, 732.  
Kyber, G. E. T., 400.
- Lanark Bee-Keeper, 650.  
Langstroth, Rev. L. L., 771.  
Larch, Dr. E. C. L., 233.  
Larabee, J. H., 314, 361, 629, 635.  
Latham, Allen, 43, 534, 647.  
Latham, J. F., 21, 101, 193, 267, 332, 345, 569, 571, 661.  
Lawsch, A. L., 107.  
Lederman, F., 620.  
Lee, Fayette, 74, 490.  
Lee, J. B., 438.  
Lerch, E. D., 139.  
Lett, H. W., 265.  
Lighty, L. W., 508.  
Lienaby, Jas. M., 602.  
Liskow, E., 309.  
Lobock, Rev. L., 443.  
Louden, J. H., 419.  
Loveland, T. J., 715.  
Lyman, J. M., 553.
- Maerlein, Peter, 251.  
Maddock, M. G., 43, 379.  
Maddock, W. T., 571.  
Mahlin, Rev. M., 437, 469.  
Mailey, A. E., 811.  
Malloy, S. H., 26, 234.  
Malone, Wm., 345, 508.  
Mandeville, J. D., 536, 570.  
Manley, R. A., 391.  
Markam, W. D., 619.  
Martin, J. H., 90, 757.  
Martin, W. H., 519.  
Mason, Dr. A. B., 8, 59, 73, 101, 284, 426, 693, 709, 820.  
Mason, Joseph, 317.  
Mason, J. B., 211.  
Mason, W. H., 59, 219, 300, 443, 619, 811.  
Mathews, R. J., 123, 587.  
McAlister, Dr. J. S., 547.  
McConnell, W. H., 115, 163.  
McConnell, W. B., 824.  
McCrumb, W. M., 371.  
McDaniel, J. M., 299.  
McDonald, F. H., 106, 475.  
McGee, Geo. H., 524.  
McInnes, A., 20.  
McKee, John, 165, 619.  
McKown, C. W., 715.  
McKown, Mrs. C. W., 699.  
McKnight, Rev. A., 636.  
McKnight, R., 507, 791.  
McLain, N. W., 392, 403, 423, 549, 567, 581, 618.  
McKee, S. V., 692.  
McMillan, J. F., 27, 459.  
McNay, Frank, 11.  
McNeil, Jas., 117.  
McSpadin, John A., 348.  
Meeker, E. F., 11.  
Meigs, E. V., 249.  
Mendelson, M. H., 390.  
Merrick, F. L., 171, 269, 523, 587.  
Middlebrook, N. M., 631.  
Miller, D. S., 648, 645.  
Miller, J. M., A., 43.  
Miller, M., 577, 822.  
Miller, W. H., 154.  
Mills, Jas. W., 187, 427.
- Miller, Dr. C. C., 6, 39, 59, 69, 73, 101, 151, 184, 199, 214, 251, 323, 331, 332, 451, 488, 501, 631, 662, 678, 692, 698, 699, 712, 743, 778.  
Miner, O. P., 332.  
Mitchell, Col. J. B., 604.  
Moore, Geo. W., 232.  
Moore, Wm. F., 339.  
Morton, Dr. Jas., 456.  
Morrison, Dr. S. W., 395, 412, 625.  
Morse, Wm., 134.  
Moss, S. H., 27, 811.  
Moyer, H. M., 27, 123.  
Muir, R. V., 314.  
Munson, J. O., 139.  
Murhard, Gust., 217, 795.  
Murphy, R. B., 293.  
Muth, Chas. R., 617.  
Muth & Son, C. F., 259, 459, 619, 787.  
Moth-Hammussen, Wm., 139, 345, 492, 691.
- Nagle, F. D., 474.  
Nebel & Son, 123, 379, 572.  
Neighborhood & Sons, G., 723.  
Nelson, P. P., 330.  
Newman, Thos. G., 454, 743, 757.  
Newman, S. F., 499.  
Niles, Caylon, 247.  
Norton, A. D., 392.  
Norton, J. G., 307.  
Oatman, H. J., 759.  
Oberlin, Wm., 634.  
Oren, Dr. J., 331, 563, 632.  
Ormsby, J. D., 732.  
Osborn, John A., 444.  
Osborn, R. M., 234, 603.  
Oswalt, Jacob, 153, 234.
- Park, D. F., 412, 618.  
Park, J. W., 139.  
Patterson, H. N., 119, 347, 643, 645.  
Paxon, H. A., 528.  
Pearson, Wm., 651.  
Peck, B. W., 233, 475.  
Pedon, John C., 292.  
Pedley, Nate C., 411.  
Penfield, H. L., 534.  
Penn, Geo. W., 104.  
Perry, Jesse, 706.  
Pervier, S. L., 506.  
Peterson, John, 476.  
Petitrew, A. T., 298.  
Petit, S. J., 28, 693.  
Phelps, Dr. W. G., 315, 693.  
Phipps, T. T., 170, 202.  
Pierson, O. M., 700.  
Pierson, T., 476.  
Pickup, E., 316.  
Pinkerton, A., 556.  
Piepante, J. E., 451.  
Pinks, Geo., 104.  
Polindexter, G. S., 59, 295, 546.  
Pollard, Josephine, 483.  
Pond, J. E., 9, 57, 116, 169, 183, 283, 347, 426, 441, 545, 554, 713.  
Ponton, W. G., 267.  
Poppleton, O. O., 394.  
Poster, W. L., 235.  
Powell & Son, J. W., 103, 217, 232, 243, 316.  
Powers, N. B., 590.  
Pringle, Allen, 131, 630.  
Pry, W. A., 297, 311.  
Publ. P. M., 57, 655.  
Putten, Warren, 444.  
Parvis, L. G., 90, 763.
- Quinn, Vincent, 26.
- Rankins, G. L., 123, 251.  
Rathvon, Dr. S. S., 617.  
Rau, Samuel, 25, 102.  
Rawdon-er, David, 42.  
Reed, L. W., 298, 523.  
Reeds, J. A., 219, 234, 782.  
Reznier, Capt. Chas., 122.  
Rev. J. H., 91, 123, 137, 703, 899.  
Riatt, Wm., 390.  
Rice, M. M., 427.  
Rich, John K., 251.  
Rich, S. W., 91, 673.  
Richards, Levi, 399.  
Richards, S. H., 139.  
Rickenbacher, J., 10, 894.  
Richmond, Edna, 715.  
Riker, G. W., 490.  
Riley, Jas. W., 645.  
Robbins, George F., 198, 182, 394, 693.  
Robert, D. Q., 122.  
Robertson, Prof. C., 792.  
Robson, A. F., 379.  
Robson, Wm., 490.  
Roe, J. J., 267.  
Roe, W. F., 43.  
Roebuck, J. B., 9, 169.  
Roese, S., 476, 555, 693.  
Rogers, H. J., 300, 507, 713.  
Rowers, L. N., 90, 555.  
Rollins, L. W., 107, 214.  
Rood, E., 10.  
Rood, M. S., 376.  
Rood, A. J., 746.  
Rook, L. C., 247, 533, 714.  
Rose, Alex., 154.
- Rosebrough, D. R., 10, 459, 823.  
Rouse, H. L., 539.  
Rowe, Wm. M., 571.  
Rupert, John H., 243.  
Rysan, E. A., 187, 315.  
Rysan, H. H., 718.  
Ryder, S. B., 539.
- Sage & Son, F. L., 71.  
Salkeld, Burke, 667.  
Sample, John B., 253.  
Sanborn, Mrs. J., 694.  
Sanders, J. W., 136, 168, 259, 455, 714.  
Sandford, E., 179, 219.  
Sanford, A. O., 567.  
Sargent, J. E., 634.  
Sawin, F. J., 202.  
Schachinger, M., 422.  
Schacht & Lemcke, 103.  
Schaefer, F. W., 187.  
Scheuring, Paul, 475.  
Schoell, Jonas, 91, 762, 763.  
Seles, H. J., 491.  
Seollard, Clinton, 691.  
Secor, Eugene, 21, 72, 104, 253, 323, 342, 391, 469, 474, 601, 619, 624, 679, 707, 753, 792, 774.  
Seeley, H. M., 300.  
Segarra, M., 118.  
Shafer, Geo., 811.  
Shafrit, W. A., 747.  
Shallcross, John, 378.  
Shaner, W. H., 699.  
Shapley, D. L., 693.  
Shaver, Jos. E., 411, 748.  
Shaw, James, 619.  
Shearer, Rev. J. W., 357.  
Sherman, J. O., 537.  
Shelt, John H., 107.  
Shepherd, M. F., 475.  
Shepherd, N. J., 23.  
Shirley, Green R., 155.  
Shirley, W. H., 476.  
Shoup, S., 59, 118, 426.  
Shreckengast, W. H., 305.  
Shroder, Mr., 51.  
Shuck, J. M., 332, 394, 506.  
Shuck, S. A., 393.  
Stimmins, S., 197, 599.  
Smith, A. W., 714.  
Smith, B. Z., 10, 169.  
Smith, Chas., 74.  
Smith, C. F., 231.  
Smith, E. F., 218, 474.  
Smith, F. L., 314.  
Smith, W. H., 72.  
Snell, F. A., 10, 232, 283, 747.  
Snuff, John W., 154.  
Snuff, C. F., 58.  
Solomon, Chas., 59, 275, 396.  
Spaulding, J. F., 632.  
Spencer, M. L., 474.  
Sperring, A., 644.  
Spittler, Geo., 10.  
Stahler, M., 359.  
Steininger, N., 332.  
Staley, H. K., 490, 507, 522, 600.  
Standish, B. H., 25, 347.  
Stanford, J. H., 219.  
Stanley, Thos. C., 139.  
Stauffer, A. F., 427, 503.  
Steddom, W. C., 347.  
Stephenson, J. D., 715.  
Stephenson, Uriah, 43.  
Stewart, J. W., 524.  
Stewart, H. H. W., 699.  
Stewart, Luther K., 825.  
Stewart, W. H., 298, 311.  
Stiles, Franklin P., 499.  
Stinger, A. B., 616.  
Stitch, Alex. W., 540.  
Stocking, A. D., 74, 122, 168, 196, 251, 394.  
Stokes, Geo. A., 693.  
Stokes, Thos., 153, 611, 693.  
Stoler, D. M., 155, 716.  
Stolley, Wm., 537.  
Stout, W. H., 249.  
Styer, Ivan R., 459, 633.  
Subscriber, 139, 269, 363.  
Sunday, F., 556.  
Sunnes, N., 556.  
Sweet, W. O., 410.
- Tasart, W. S., 75.  
Taintor, F. M., 293.  
Talmage, Rev. T., 51, 710.  
Talmage, M. F., 83.  
Tanner, R. L., 189, 776, 808.  
Teft, J. W., 377, 379, 571.  
Theilmann, C., 108, 201, 549, 552, 594.  
Thomas, J. R., 506.  
Thomas, Mrs. M. L., 371.  
Thompson, Edna A., 311.  
Thompson, Geo. M., 490.  
Thompson, Mr., 407.  
Thorpe, Rev. John, 320.  
Thorne, W. B., 74.  
Thornton, John A., 427.  
Tinker, Dr. G., 58, 428.  
Todd, A., 233, 474, 762, 811.  
Todd, Jas. E., 251.  
Tomlinson, Julius, 7, 147, 521, 681.  
Toney, B. B., 171.  
Tongue, L. N., 24, 235.  
Tracy, Thomas, 167.
- Tracy, Wm. J., 475.  
Tranvua, Geo. L., 439.  
Travia, I. A., 369.  
Treadwell, Wm. B., 230.  
Tucker, J. J., 491.  
Tully, John B., 123.  
Turnbull, John, 90.  
Tustin, Prof. F. W., 617.  
Tutt & Co., D. G., 728, 795.  
Tuttle, E. O., 762.  
Tuttle, M. O., 234, 347, 426.  
Tweedell, J. T., 715.  
Tyler, J. M., 821.  
Tyrrell, A. C., 475, 531, 649.  
Uhl, Chas. F., 235.
- Valentine & Sons, 90, 105.  
Valentine, J. M., 723, 793.  
Vance, Dr. J. W., 294.  
VanDeusen & Son, J., 523.  
Van Vechten, C. H., 107.  
Vought, A., 170.
- Wagner, Jacob, 474.  
Wales, E. W., 616.  
Waldron, A. C., 536, 603.  
Walker, Chas., 115, 154, 503.  
Wallbridge, A. H., 473.  
Walker, J. J., 216, 319.  
Walton, Col. R., 43.  
Warren, Arthur, 469.  
Webster, S. D., 115.  
Weeks, C., 139.
- Weed, A. B., 606.  
Weeks, C., 444.  
Wellington, J. H., 556.  
Werner, Louis, 171, 318.  
West, M. S., 475.  
Westcott, R. L., 579.  
Whinery, T. R., 179.  
Whitcomb, R. L., 267.  
Whitford, LeRoy, 341.  
Whitmer, Daniel, 74, 90.  
Whitney, W. A., 603.  
Wilcox, F., 153, 470.  
Williams, A. B., 515.  
Williams, Henry, 498.  
Wilson, Dr. I. F., 474.  
Wilson, Samuel, 306.  
Winder, Mrs. A. B., 366.  
Winters, James, 443.  
Wood, Deins, 353.  
Wood, Jos. H., 567.  
Woodcock, B. F., 153, 364.  
Woodman, J. H., 507.  
Woodward, R. H., 300, 634.  
Wright, Geo. A., 283.  
Wright, G. F., 391.  
Wylie, John F., 53, 633.
- York, Geo. W., 789.  
Youngman, S. J., 51, 123, 183, 444, 536, 571, 693.  
Zastrow, Ferd., 251.

## ILLUSTRATIONS.

- Alsike clover plant in bloom..... 5  
Alsike clover, root and crown..... 6  
Bee-cellar diagram..... 439  
Building for showing bees..... 407  
Canadian honey exhibit in London..... 408  
Commercial hotel, Chicago..... 742  
Doolittle, Gilbert M..... 264  
Drone bee..... 423  
Eaton's section-case..... 183  
English bee-tent..... 407  
Frame of transferred brood..... 313  
Heddon, James..... 327  
Honey-eating bear of California..... 518  
Paris bee and honey pavilion..... 408  
Powell's honey-board..... 232  
Red clover, root and crown..... 6  
Scraper for cleaning hives..... 214  
Shucks' two-part super..... 394  
Transferring-board..... 313  
Uni-comb hive..... 630  
Wilkin's California bee-ranch..... 425  
Wired sticks for transferring..... 313

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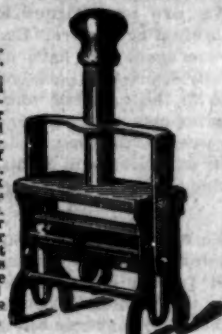
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